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Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-420



MQ-1C Gray Eagle Unmanned Aircraft System (MQ-1C Gray Eagle)

As of FY 2019 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Sensitivity Originator

No originator info Available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

MQ-1C Gray Eagle Unmanned Aircraft System (MQ-1C Gray Eagle)

DoD Component

Army

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Date Assigned: July 11, 2014

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 25, 2011

Approved APB

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated December 20, 2017

Mission and Description

The MQ-1C Gray Eagle Unmanned Aircraft System (UAS) provides the commander a dedicated, assured, long endurance, multi-mission UAS for the operational and tactical fight. The MQ-1C Gray Eagle provides reconnaissance, surveillance, target acquisition, command and control, communications relay, signals intelligence, electronic warfare, battle damage assessment and manned-unmanned teaming capabilities. Fifteen Gray Eagle Warfighting Companies are assigned as follows: ten companies assigned to Army divisions, one company to the National Training Center (NTC), two companies to the U.S. Army Special Operations Command, and two companies to the Intelligence and Security Command.

Version 8.7, Revision 3 of the CPD for the MQ-1C Gray Eagle defines an operational requirement for the MQ-1C Gray Eagle Extended Range. The MQ-1C Gray Eagle Extended Range provides for much greater range, endurance and payload carrying capability for Echelons Above Division (EAD) units.

The Gray Eagle system consists of twelve MQ-1C aircraft, each with the following payloads: Electro-Optical/Infrared, Laser Range Finder/Laser Designator, Synthetic Aperture Radar/Ground Moving Target Indicator, communications relay and Hellfire Missiles. Ground equipment includes: six Ground Control Stations (GCS), seven Ground Data Terminals, three satellite communication Ground Data Terminals, one Mobile GCS, the Automated Takeoff and Landing System which consists of six Tactical Automatic Landing System-Tracking Subsystems, two per runway, and Ground-Based Sense and Avoid. Each Division and NTC Gray Eagle Company consists of 126 Soldiers within the Divisional Combat Aviation Brigade and the NTC; EAD Companies consist of three Platoons of equipment and four Platoons of people (165 Soldiers). Each EAD Company is organized with three identical Platoons; each Platoon is capable of operating independently.

Executive Summary

Program Highlights Since Last Report

The MQ-1C Gray Eagle program is in Production and Deployment and remains on schedule. As of December 31, 2017, the Army accepted a total of 145 of 204 MQ-1C aircraft. Twelve of 15 companies are fielded with approximately 300,000+ flight hours flown while maintaining an operational availability rate greater than 90 percent.

The Army is on schedule to field the remaining three companies by 2nd Quarter FY 2019. MQ-1C Gray Eagle production deliveries are on track with active firm fixed price FRP I, II and III contracts. The FRP IV contract was awarded in 3rd Quarter FY 2017 and a supplemental FRP contract was awarded in 4th Quarter FY 2017. Overall, the MQ-1C Gray Eagle acquisition program costs are stable. MQ-1C Gray Eagle production deliveries are on track with active Firm Fixed Price contracts.

The Gray Eagle Extended Range First Article Test began in October 2017 and is now complete. During the testing, the MQ-1C Gray Eagle Extended Range demonstrated 550-kilometers inbound and outbound transit with 15 hours time on station and greater than 40 hours of total endurance. The Program Office is preparing for Follow-On Test and Evaluation (FOT&E) II scheduled in March 2018.

The MQ-1C Gray Eagle requirements are stable and funding is adequate to meet cost and schedule baselines. Risk did not increase since the 2016 SAR. The PM, in conjunction with the manufacturer, identified and implemented modifications to the propulsion system to correct known deficiencies and improve reliability. As a result of these actions, the program continues to mitigate propulsion reliability issues and realized a decrease in the material failure rate throughout 2017. There were no additional losses to date attributed to the identified issues at the engine component level.

The Senate Appropriations Committee on Defense proposed an FY 2018 RDT&E Appropriation mark that reduced funding from \$9.6M to zero, putting executing of FOT&E II and other developmental tests, such as environmental and transportability/mobility testing, at risk.

There are no significant software-related issues with this program at this time.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	Significant Development Description
April 2005	The MQ-1C Unmanned Aircraft System (UAS) Gray Eagle (Gray Eagle UAS) program was initiated at Milestone B. The Gray Eagle UAS was initially established as an Acquisition Category (ACAT) II program and was intended to replace the Hunter UAS, a Corps level asset.
May 2008	The Gray Eagle UAS was redesignated by the Defense Acquisition Executive as an ACAT ID program.
1st Quarter FY 2010	A Configuration Steering Board approved unit quantities to increase from 13 to 17 Gray Eagle UAS Companies.
March 2010	Milestone C was approved.
3rd Quarter FY 2010	A successful Limited User Test (LUT) was conducted.
March 2012	Deployment of the first full-up Gray Eagle Company (12 aircraft and 128 Soldiers) to support combat operations in Afghanistan.
August 2012	Successfully completed Initial Operational Test and Evaluation test event.
February 2013	Chief of Staff of the Army directs fielding of MQ-1C Gray Eagle companies to ten Army Divisions, one to the National Training Center (NTC), two Army Special Operations Forces (ARSOF) units, and two to the Aerial Exploitation Battalions (AEB) for a total of 15 companies.
June 2015	Successfully completed Follow-on Test & Evaluation (FOT&E).
August 2015	An ADM dated August 13, 2015, approved procurement of 15 additional MQ-1C Gray Eagle Unmanned Aircraft and associated ground support equipment for a total of 167 MQ-1C Gray Eagle aircraft from 152. Additionally, the ADM approved and authorized an acquisition and contracting strategy for Gray Eagle extended range modifications.
May 2017	The Army increased the Army Acquisition Objective from 167 to 204 aircraft, increasing the total Platoons to 45 sets.
December 2017	On December 20, 2017, the Program Office received a signed, Acquisition Program Baseline (APB), updating the 2013 APB.

Threshold Breaches

APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

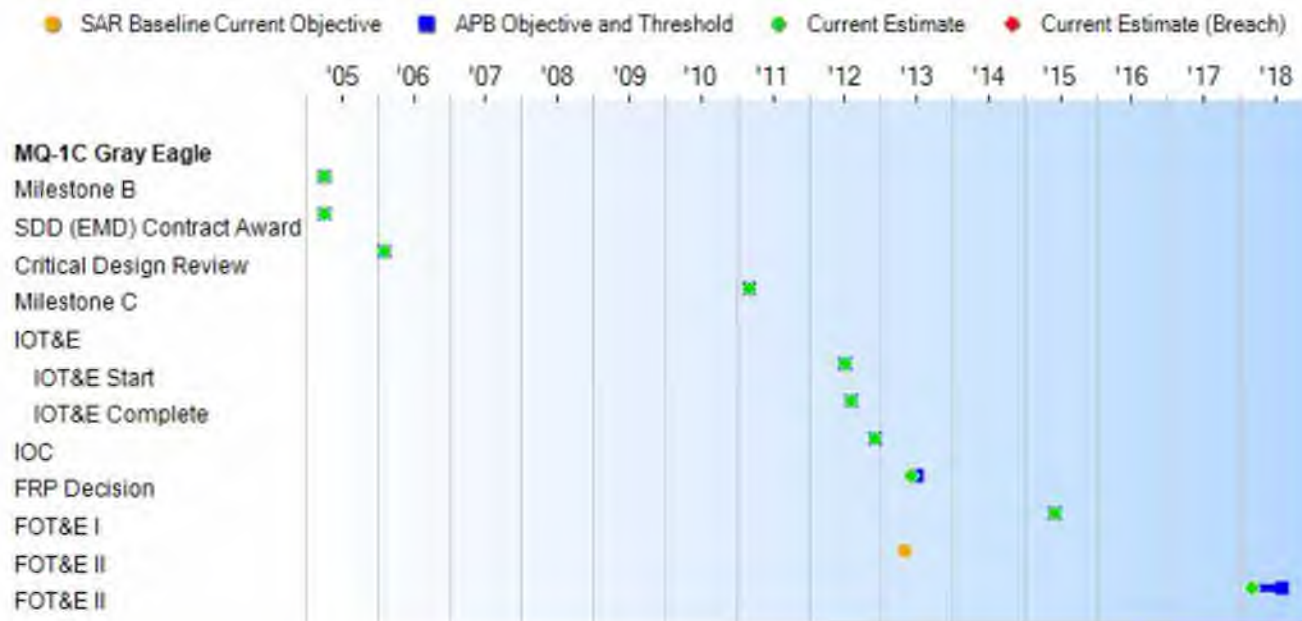
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
Milestone B	Apr 2005	Apr 2005	Apr 2005	Apr 2005
SDD (EMD) Contract Award	Apr 2005	Apr 2005	Apr 2005	Apr 2005
Critical Design Review	Feb 2006	Feb 2006	Feb 2006	Feb 2006
Milestone C	Mar 2011	Mar 2011	Mar 2011	Mar 2011
IOT&E				
IOT&E Start	Sep 2011	Jul 2012	Jul 2012	Jul 2012
IOT&E Complete	Oct 2011	Aug 2012	Aug 2012	Aug 2012
IOC	Jun 2012	Dec 2012	Dec 2012	Dec 2012
FRP Decision	Apr 2012	Jul 2013	Jul 2013	Jun 2013
FOT&E I	Aug 2012	Jun 2015	Jun 2015	Jun 2015
FOT&E II	May 2013	N/A	N/A	N/A
FOT&E II	N/A	Mar 2018	Aug 2018	Mar 2018

(Ch-1)

Change Explanations

(Ch-1) In last SAR submission, APB did not reflect FOT&E II as scheduled event.

Acronyms and Abbreviations

FOT&E - Follow-On Test and Evaluation

IOT&E - Initial Operational Test and Evaluation

SDD - System Development and Demonstration

Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Production Objective/Threshold	Demonstrated Performance	Current Estimate	
Net Ready				
The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. The system must be able to enter and be managed in the network, and exchange	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	Met threshold at IOT&E; LINK-16 demonstrated at FOT&E.	The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.

data in a secure manner.				
Multi Payload/Weight Capability				
The aircraft is capable of simultaneously carrying two payloads with a combined minimum weight of 300 lbs.	UA will be capable of simultaneously carrying three or more payloads with a combined minimum weight of 300 lbs.	UA will be capable of simultaneously carrying two payloads with a combined minimum weight of 200 lbs.	Met threshold at IOT&E	UA will be capable of simultaneously carrying three or more payloads with a combined minimum weight of 300 lbs.
Airframe Sensors Payload Capability				
The aircraft will be capable of accepting payloads that are: EO/IR/LD capable of providing a 90% PD of a military target from the aircraft's operational altitude out to a minimum of 30km slant range. EO/IR/LD capable of providing a 90% PR of a military target, from the aircraft's operational altitude, out to a minimum of 10km slant range. SAR/GMTI Sensor capable of providing 85% PD of a military target, from the aircraft's operational altitude, out to a minimum 10km slant range in clear weather	MQ-1C UA will be capable of accepting payloads that are: EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 30 km slant range; 90% PR of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range; SAR/GMTI sensor capable of providing 85% PD of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range in clear weather.	EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 25 km slant range; 90% PR of a military target, from the UA's operational altitude out to a minimum of 9 km slant range.	Met objective, verified CSP during Production Prove-Out Test.	MQ-1C UA will be capable of accepting payloads that are: EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 30 km slant range; 90% PR of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range; SAR/GMTI sensor capable of providing 85% PD of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range in clear weather.
Sustainment				
The aircraft system must maintain a combat Ao of 90%.	MQ-1C must maintain a combat Ao of 90%.	MQ-1C must maintain a combat Ao of 80%.	Met updated threshold KPP at IOT&E.	MQ-1C must maintain a combat Ao of 90%.
Aircraft Propulsion				
The aircraft engine will be powered by DoD/NATO standard heavy fuel (JP8 Fuel).	UA engine will be powered by DoD/NATO standard heavy fuel (JP8 Fuel).	UA engine will be powered by DoD/NATO standard heavy fuel (JP8 Fuel).	Met objective at IOT&E.	UA engine will be powered by DoD/NATO standard heavy fuel (JP8 Fuel).
Weapons Capable				
The aircraft shall be capable of engaging traditional and non-traditional ground moving, stationary, and water borne moving	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary and water borne	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary targets with the AGM-	Met threshold; (35) Hellfire shots in DT/OT; (100+) Hellfire shots in OIF/OEF.	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary and water borne

targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.	moving and stationary targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.	114P-4A and AGM-114N-4.		moving and stationary targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.
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Survivability and Force Protection

The GCS-V3 will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	Met threshold/objective at IOT&E.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.
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Requirements Reference

CPD for Extended Range Multi-Purpose ERMP Unmanned Aircraft System MQ-1C Increment: 1, version 8.6 dated April 30, 2015

Change Explanations

None

Acronyms and Abbreviations

% - Percent

AGMs - Air-to-Ground Missiles

Ao - Operational Availability

ATO - Approval to Operate

DAA - Designated Approval Authority

DISR - Department of Defense Information Technology Standards Registry

DT/OT - Developmental Test / Operational Test

EO/IR/LD - Electro-Optical/Infrared/Laser Designator

GCS-V3 - Ground Control Station Version Three

GIG IT - Global Information Grid Information Technology

IA - Information Assurance

IATO - Interim Approval to Operate

JROC - Joint Requirements Oversight Council

KIP - Key Interface Profile

km - Kilometers

KPP - Key Performance Parameter

lbs - Pounds

NATO - North Atlantic Treaty Organization

NCOW RM - Net Centric Operations Warfare Reference Model

OEF - Operation Enduring Freedom

OIF - Operation Iraqi Freedom

PD - Probability of Detection

PR - Probability of Recognition

SAR/GMTI - Synthetic Aperature Radar/Ground Moving Target Indicator

TV - Technical View

UA - Unmanned Aircraft

Track to Budget

RDT&E

Appn	BA	PE	
Army	2040	07	0305204A
	Project	Name	
	D09	Research, Development, Test and Evaluation, Army	(Sunk)
	Notes:	FY 2005 - FY 2010	
Army	2040	07	0305219A
	Project	Name	
	MQ1	Research, Development, Test and Evaluation, Army	(Sunk)
	Notes:	FY 2011 - FY 2018	

Procurement

Appn	BA	PE	
Army	2031	01	0305219A
	Line Item	Name	
	A00005	MQ-1 UAV	
	Notes:	FY 2010 - FY 2019	
Army	2031	02	0305219A
	Line Item	Name	
	A00020	MQ-1 Payload	(Sunk)
Army	2031	02	0313400A
	Line Item	Name	
	A01001	MQ-1 Payload	(Shared)
	Notes:	Beginning in FY 2015	
Army	2031	02	0305219A
	Line Item	Name	
	A01005	CSP FMV	
Army	2035	02	0030500A
	Line Item	Name	
	00305000	Other Procurement, Army	(Sunk)
	Notes:	FY 2007 - FY 2009	

Notes

The MQ-1C Gray Eagle program baseline includes the Common Sensor Payload (CSP) procurement, which is part of the MQ-1 Payloads Aircraft Procurement, Army budget line. The funding line is shared with CSP, Synthetic Aperture Radar/Ground Moving Target Indicator and the Tactical Signals Intelligence Payload.

MILCON

Appn	BA	PE	
Army	2050	01	0202096A
	Project	Name	
	VARIOUS	Various	(Sunk)
Army	2050	01	0202544A
	Project	Name	
	VARIOUS	Various	(Sunk)
	Notes: FY 2017 MILCON		

Acq O&M

Appn	BA	PE	
Army	2020	04	0702806A
	Subactivity Group	Name	
	435	Acquisition and Management Support: MQ-1C Gray Eagle	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost						
Appropriation	BY 2010 \$M			BY 2010 \$M	TY \$M	
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective
RDT&E	895.3	969.0	1065.9	968.7	896.3	984.3
Procurement	3364.7	4131.0	4544.1	3900.4	3572.0	4510.3
Flyaway	--	--	--	2788.6	--	--
Recurring	--	--	--	2777.1	--	--
Non Recurring	--	--	--	11.5	--	--
Support	--	--	--	1111.8	--	--
Other Support	--	--	--	899.0	--	--
Initial Spares	--	--	--	212.8	--	--
MILCON	992.0	633.4	696.7	634.7	1080.7	697.2
Acq O&M	0.0	5.6	6.2	5.6	0.0	6.1
Total	5252.0	5739.0	N/A	5509.4	5549.0	6197.9

Current APB Cost Estimate Reference

Deputy Assistant Secretary of the Army for Cost and Economics sufficiency review of the MQ-1C Gray Eagle POE dated August 24, 2017

Cost Notes

In accordance with section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

On May 4, 2017, the Army adjusted the Army Acquisition Objective (AAO) bringing the total requirement to 204 MQ-1C Gray Eagle aircraft, increasing the platoon sets to 45. Of the 204 MQ-1C Gray Eagle aircraft, a total of 86 will be in the Extended Range (ER) configuration. The MQ-1C Gray Eagle program is in Production and Deployment and remains on schedule. As of December 31, 2017, the Army accepted a total of 145 MQ-1C Gray Eagle aircraft. On August 24, 2017, the Deputy Assistant to the Secretary of the Army for Cost Estimating found the POE adequate to support the revised APB. The MQ-1C Gray Eagle APB was approved December 20, 2017.

A December 20, 2017, approved APB estimates the total program cost at \$5,739M (BY 2010). The previous 2013 APB from 2013 estimated costs at \$4,498.2M (BY 2010). The delta between estimates is driven by the change in AAO and the associated hardware quantities needed to meet 204 AAO.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	2	2	2
Procurement	29	43	43
Total	31	45	45

Quantity Notes

A Gray Eagle Company is configured into three equal platoons. The current procurement activities ensure that each system will be fully equipped with twelve MQ-1C aircraft. Ground equipment includes: six Ground Control Stations, seven Ground Data Terminals, three satellite communication Ground Data Terminals, one Mobile Ground Control Station, the Automated Takeoff and Landing System which consists of six Tactical Automatic Landing System-Tracking Subsystems (two per runway) and Ground Based Sense and Avoid.

Cost and Funding**Funding Summary**

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY\$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	974.1	9.6	0.0	0.0	0.0	0.0	0.0	0.0	983.7
Procurement	3960.9	144.3	114.7	0.0	0.0	0.0	0.0	0.0	4219.9
MILCON	644.2	53.0	0.0	0.0	0.0	0.0	0.0	0.0	697.2
Acq O&M	4.3	0.9	0.3	0.1	0.1	0.2	0.2	0.0	6.1
PB 2019 Total	5583.5	207.8	115.0	0.1	0.1	0.2	0.2	0.0	5906.9
PB 2018 Total	5506.0	206.9	0.0	0.0	0.0	0.0	0.0	0.0	5712.9
Delta	77.5	0.9	115.0	0.1	0.1	0.2	0.2	0.0	194.0

Quantity Summary										
FY 2019 President's Budget / December 2017 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	43	0	0	0	0	0	0	0	43
PB 2019 Total	2	43	0	0	0	0	0	0	0	45
PB 2018 Total	2	43	0	0	0	0	0	0	0	45
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	54.3
2006	--	--	--	--	--	--	90.6
2007	--	--	--	--	--	--	123.7
2008	--	--	--	--	--	--	103.4
2009	--	--	--	--	--	--	61.8
2010	--	--	--	--	--	--	135.1
2011	--	--	--	--	--	--	119.2
2012	--	--	--	--	--	--	121.9
2013	--	--	--	--	--	--	68.7
2014	--	--	--	--	--	--	13.1
2015	--	--	--	--	--	--	46.5
2016	--	--	--	--	--	--	22.3
2017	--	--	--	--	--	--	13.5
2018	--	--	--	--	--	--	9.6
Subtotal	2	--	--	--	--	--	983.7

Annual Funding							
2040 RDT&E Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	58.8
2006	--	--	--	--	--	--	95.5
2007	--	--	--	--	--	--	127.3
2008	--	--	--	--	--	--	104.4
2009	--	--	--	--	--	--	61.6
2010	--	--	--	--	--	--	132.7
2011	--	--	--	--	--	--	114.8
2012	--	--	--	--	--	--	115.6
2013	--	--	--	--	--	--	64.1
2014	--	--	--	--	--	--	12.0
2015	--	--	--	--	--	--	41.9
2016	--	--	--	--	--	--	19.9
2017	--	--	--	--	--	--	11.8
2018	--	--	--	--	--	--	8.3
Subtotal	2	--	--	--	--	--	968.7

Annual Funding								
2031 Procurement Aircraft Procurement, Army								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2010	6	283.4	78.5	--	361.9	126.2	488.1	
2011	7	277.5	76.8	3.5	357.8	146.3	504.1	
2012	7	236.2	118.3	8.7	363.2	249.0	612.2	
2013	3	171.4	133.5	--	304.9	145.6	450.5	
2014	5	274.0	118.6	--	392.6	167.6	560.2	
2015	5	122.9	58.2	--	181.1	65.3	246.4	
2016	4	221.7	88.3	--	310.0	72.8	382.8	
2017	5	236.7	86.3	--	323.0	118.3	441.3	
2018	--	--	128.1	--	128.1	16.2	144.3	
2019	--	--	103.3	--	103.3	11.4	114.7	
Subtotal	42	1823.8	989.9	12.2	2825.9	1118.7	3944.6	

Annual Funding							
2031 Procurement Aircraft Procurement, Army							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	6	276.0	76.5	--	352.5	122.9	475.4
2011	7	265.4	73.5	3.3	342.2	140.0	482.2
2012	7	222.2	111.3	8.2	341.7	234.1	575.8
2013	3	158.4	123.4	--	281.8	134.6	416.4
2014	5	249.6	108.0	--	357.6	152.7	510.3
2015	5	110.4	52.3	--	162.7	58.6	221.3
2016	4	196.7	78.3	--	275.0	64.6	339.6
2017	5	206.5	75.3	--	281.8	103.2	385.0
2018	--	--	109.7	--	109.7	13.9	123.6
2019	--	--	86.6	--	86.6	9.6	96.2
Subtotal	42	1685.2	894.9	11.5	2591.6	1034.2	3625.8

Common Sensor Payload (TY\$M):

FY 2010 (\$48.5M)
FY 2011 (\$48.2M)
FY 2012 (\$61.5M)
FY 2013 (\$73.6M)
FY 2014 (\$29.2M)
FY 2015 (\$8.4M)
FY 2016 (\$68.5M)
FY 2017 (\$37.7M)
FY 2018 (\$26.8M)
FY 2019 (\$11.4)

Annual Funding							
2035 Procurement Other Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	9.7	9.7
2008	--	--	31.4	--	31.4	24.3	55.7
2009	1	151.2	15.3	--	166.5	43.4	209.9
Subtotal	1	151.2	46.7	--	197.9	77.4	275.3

Annual Funding 2035 Procurement Other Procurement, Army							
Fiscal Year	Quantity	BY 2010 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	9.9	9.9
2008	--	--	31.6	--	31.6	24.5	56.1
2009	1	150.2	15.2	--	165.4	43.2	208.6
Subtotal	1	150.2	46.8	--	197.0	77.6	274.6

Annual Funding 2050 MILCON Military Construction, Army	
Fiscal Year	TY \$M
	Total Program
2011	102.0
2012	228.0
2013	107.2
2014	36.0
2015	124.0
2016	--
2017	47.0
2018	53.0
Subtotal	697.2

Annual Funding 2050 MILCON Military Construction, Army		
Fiscal Year	BY 2010 \$M	
	Total Program	
2011		96.6
2012		213.1
2013		98.8
2014		32.3
2015		109.5
2016		--
2017		40.1
2018		44.3
Subtotal		634.7

Annual Funding		
2020 Acq O&M Operation and Maintenance, Army		
Fiscal Year	TY \$M	
	Total Program	
2016		2.3
2017		2.0
2018		0.9
2019		0.3
2020		0.1
2021		0.1
2022		0.2
2023		0.2
Subtotal		6.1

Annual Funding 2020 Acq O&M Operation and Maintenance, Army		
Fiscal Year	BY 2010 \$M	
	Total Program	
2016		2.1
2017		1.8
2018		0.8
2019		0.3
2020		0.1
2021		0.1
2022		0.2
2023		0.2
Subtotal		5.6

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	3/29/2010	7/3/2012
Approved Quantity	2	6
Reference	Milestone C ADM	LRIP III ADM
Start Year	2010	2012
End Year	2011	2017

The Current Total LRIP Quantity is more than 10% of the total production quantity due to MDA directed quantities to facilitate rapid entrance of the MQ-1C Gray Eagle capability into theater.

Initial LRIP Decision - The original LRIP quantity was two MQ-1C Gray Eagle systems which equates to six platoon sets (24 aircraft).

Current Total LRIP - The Current Total LRIP quantity is six MQ-1C Gray Eagle systems which equates to 18 platoon sets and includes LRIP I (24 aircraft and two attrition aircraft), LRIP II (24 aircraft and five attrition aircraft) and LRIP III (29 aircraft).

Foreign Military Sales

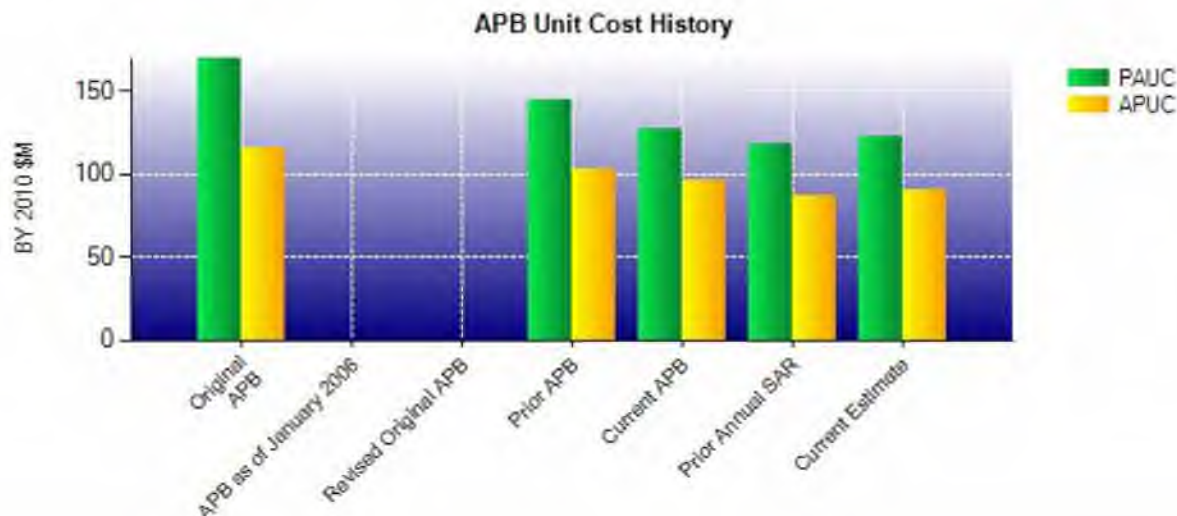
None

Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Current UCR Baseline (Dec 2017 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	5739.0	5509.4	
Quantity	45	45	
Unit Cost	127.533	122.431	-4.00
Average Procurement Unit Cost			
Cost	4131.0	3900.4	
Quantity	43	43	
Unit Cost	96.070	90.707	-5.58
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 \$M	BY 2010 \$M	% Change
	Original UCR Baseline (Mar 2011 APB)	Current Estimate (Dec 2017 SAR)	
Program Acquisition Unit Cost			
Cost	5252.0	5509.4	
Quantity	31	45	
Unit Cost	169.419	122.431	-27.73
Average Procurement Unit Cost			
Cost	3364.7	3900.4	
Quantity	29	43	
Unit Cost	116.024	90.707	-21.82



APB Unit Cost History					
Item	Date	BY 2010 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Mar 2011	169.419	116.024	179.000	123.172
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Sep 2013	145.103	103.034	154.929	110.941
Current APB	Dec 2017	127.533	96.070	137.731	104.891
Prior Annual SAR	Dec 2016	118.589	86.853	126.953	93.767
Current Estimate	Dec 2017	122.431	90.707	131.264	98.137

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
401.600	0.094	-242.537	-7.813	13.968	13.152	0.000	0.536	-222.600	179.000

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
179.000	0.578	-39.624	-0.049	2.536	-16.464	0.000	5.287	-47.736	131.264

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
285.100	0.141	-177.121	0.000	14.931	-0.452	0.000	0.573	-161.928	123.172

Current SAR Baseline to Current Estimate (TY \$M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
123.172	0.402	-23.289	-0.051	0.919	-8.549	0.000	5.533	-25.035	98.137

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Apr 2005	Apr 2005	Apr 2005
Milestone C	N/A	Feb 2010	Mar 2011	Mar 2011
IOC	N/A	Feb 2012	Jun 2012	Dec 2012
Total Cost (TY \$M)	N/A	5322.6	5549.0	5906.9
Total Quantity	N/A	13	31	45
PAUC	N/A	409.431	179.000	131.264

Cost Variance

Summary TY \$M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Production Estimate)	896.3	3572.0	1080.7	--	5549.0
Previous Changes					
Economic	+4.3	+23.8	+6.3	--	+34.4
Quantity	--	+723.0	--	--	+723.0
Schedule	--	-2.2	--	--	-2.2
Engineering	+74.6	+39.5	--	--	+114.1
Estimating	+8.5	-528.0	-389.8	--	-909.3
Other	--	--	--	--	--
Support	--	+203.9	--	--	+203.9
Subtotal	+87.4	+460.0	-383.5	--	+163.9
Current Changes					
Economic	-0.3	-6.5	-1.6	--	-8.4
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+0.3	+160.4	+1.6	+6.1	+168.4
Other	--	--	--	--	--
Support	--	+34.0	--	--	+34.0
Subtotal	--	+187.9	--	+6.1	+194.0
Total Changes	+87.4	+647.9	-383.5	+6.1	+357.9
CE - Cost Variance	983.7	4219.9	697.2	6.1	5906.9
CE - Cost & Funding	983.7	4219.9	697.2	6.1	5906.9

Summary BY 2010 \$M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Production Estimate)	895.3	3364.7	992.0	--	5252.0
Previous Changes					
Economic	--	--	--	--	--
Quantity	--	+635.2	--	--	+635.2
Schedule	--	+0.6	--	--	+0.6
Engineering	+63.7	+29.9	--	--	+93.6
Estimating	+9.4	-468.8	-358.6	--	-818.0
Other	--	--	--	--	--
Support	--	+173.1	--	--	+173.1
Subtotal	+73.1	+370.0	-358.6	--	+84.5
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+0.3	+136.2	+1.3	+5.6	+143.4
Other	--	--	--	--	--
Support	--	+29.5	--	--	+29.5
Subtotal	+0.3	+165.7	+1.3	+5.6	+172.9
Total Changes	+73.4	+535.7	-357.3	+5.6	+257.4
CE - Cost Variance	968.7	3900.4	634.7	5.6	5509.4
CE - Cost & Funding	968.7	3900.4	634.7	5.6	5509.4

Previous Estimate: December 2016

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.3
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.3
RDT&E Subtotal	+0.3	0.0

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-6.5
Additional funding due to Army decision to procure additional MQ-1C Gray Eagle Extended Range aircraft. (Estimating)	+131.9	+155.3
Adjustment for current and prior escalation. (Estimating)	+4.3	+5.1
Adjustment for current and prior escalation. (Support)	+1.3	+1.4
Additional funding due to Army decision to procure the Ground Support equipment associated with the aircraft increase. (Support)	+28.2	+32.7
Decrease in Initial Spares related to economic adjustment. (Support)	0.0	-0.1
Procurement Subtotal	+165.7	+187.9

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-1.6
Adjustment for current and prior escalation. (Estimating)	+1.3	+1.6
MILCON Subtotal	+1.3	0.0

Acq O&M	\$M	
Current Change Explanations	Base Year	Then Year
Realignment of funding previously categorized OS Cost for government civilians directly supporting the MQ-1C Program Office. (Estimating)	+5.6	+6.1
Acq O&M Subtotal	+5.6	+6.1

Contracts

General Notes

Contracts W58RGZ-12-C-0075 and W58RGZ-17-C-0018, Performance Based Logistics (PBL), are not included in the December 2017 SAR. These contracts are for PBL support to fielded systems and are O&M, Army-funded.

Contract Identification

Appropriation: Procurement
Contract Name: Engineering Services II
Contractor: General Atomics - Aeronautical Systems, Inc.
Contractor Location: 14200 Kirkham Way
 Poway, CA 92064-7103
Contract Number: W58RGZ-13-C-0110
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: September 30, 2013
Definitization Date: September 30, 2013

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
38.5	N/A	N/A	221.7	N/A	N/A	207.8	214.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to exercising a variety of production related engineering projects, such as Solid Core, Air Worthiness and Universal Ground Control Stations.

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2018)	+9.9	-5.7
Previous Cumulative Variances	+12.7	-6.7
Net Change	-2.8	+1.0

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to software 4.3.4 FOT&E patches.

The favorable net change in the schedule variance is due to accelerated Electronic Checklist Aid System delivery.

Contract Identification

Appropriation: Procurement
Contract Name: Full Rate Production (FRP)
Contractor: General Atomics - Aeronautical Systems, Inc.
Contractor Location: 14200 Kirkham Way
 Poway, CA 92064
Contract Number: W58RGZ-13-C-0109
Contract Type: Firm Fixed Price (FFP)
Award Date: September 13, 2013
Definitization Date: September 13, 2013

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
199.7	N/A	15	1048.8	N/A	106	1048.8	1048.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to continuing to procure additional aircraft and ground support equipment.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	34	34	43	79.07%
Total Program Quantity Delivered	36	36	45	80.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	5906.9	Years Appropriated	14
Expended to Date	4598.9	Percent Years Appropriated	73.68%
Percent Expended	77.86%	Appropriated to Date	5791.3
Total Funding Years	19	Percent Appropriated	98.04%

The above data is current as of February 12, 2018.

The calculation in the Percent Delivered table above is based on a quantity of 45 Platoon Sets for initial fielding. The remaining procurement activity is focused on aircraft. Six platoons are planned for fielding in FY 2018 and three more are planned for FY 2019.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	September 20, 2017
Source of Estimate:	POE
Quantity to Sustain:	45
Unit of Measure:	Platoons
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2011 - FY 2038

The 2017 POE assumes an Army Acquisition Objective of 204 aircraft across 15 companies (45 platoon sets). The companies are ten Combat Aviation Brigades (CAB) companies, two Army Intelligence and Security Command (INSCOM) companies, two U.S. Army Special Operations Command (USASOC) companies and one National Training Center company. The estimate also includes one training base company.

The Gray Eagle Unit of Measure is a Platoon. The CAB Platoon equipment set consists of: 4 aircraft, two Universal Ground Control Stations (UGCS), two Universal Ground Data Terminals (UGDT), one Satellite Communication (SATCOM) Ground Data Terminal (SGDT), four Satellite Airborne Data Terminals (SADT), one Automatic Take-off and Landing Systems (ATLS), Government Furnished Equipment (GFE) and Ground Support Equipment (GSE). The USASOC and INSCOM Platoon equipment set consists of: four aircraft, two UGCS, one MGCS, three UGDT, one SGDT, 4 SADT, one ATLS set, GFE and GSE. The O&S estimate includes the training company which is not a fully-equipped Platoon with a lower annual operating tempo (OPTEMPO).

The O&S Cost estimating methodology is based on historical Cost Performance Report actual data, logistics headcount actual experience, actual mishap cost, engineering software estimates, SATCOM actual historical cost and the Army Manpower Cost System to estimate military manpower requirements by Military Occupational Specialty and grade.

Sustainment Strategy

The sustainment strategy includes a Performance Based Logistics (PBL) contract. Soldiers operate systems and perform 85 percent of the basic field maintenance. Field Service Representatives support the remaining 15 percent of basic field maintenance through PBL efforts. Some of the Depot Level Reparables will be performed by organic depots through a Public Private Partnership (PPP) arrangement. The PPP with organic depot efforts will be determined through cost-benefit analysis and application of section 2466 of title 10, U.S. Code and the 50-50 rule.

Antecedent Information

No Antecedent

Annual O&S Costs BY2010 \$M		
Cost Element	MQ-1C Gray Eagle Average Annual Cost Per Platoons	No Antecedent (Antecedent)
Unit-Level Manpower	3.902	0.000
Unit Operations	0.181	0.000
Maintenance	3.847	0.000
Sustaining Support	3.556	0.000
Continuing System Improvements	0.009	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	11.495	--

Item	Total O&S Cost \$M			
	MQ-1C Gray Eagle			No Antecedent (Antecedent)
	Current Production APB Objective/Threshold	Current Estimate		
Base Year	10655.5	11721.1	10655.5	N/A
Then Year	14235.0	N/A	14235.0	N/A

Equation to Translate Annual Cost to Total Cost

Total O&S Cost is \$10,655.5M allocated over 927 Operational Platoon Systems. The Operational Platoon System consists of 15 Operational Companies with three platoons per company for a total of 45 Operational Platoons with an expected system life of 20 years which results in 900 Operational Platoon Systems. Additionally, MQ-1C Gray Eagle has one training base platoon with a system life of 27 years. This results a total of 927 total Operational Platoon Systems.

O&S Cost Variance		
Category	BY 2010 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2016 SAR	7357.3	
Programmatic/Planning Factors	1846.2	Operational tempo (OPTEMPO) increased from 29K flying hours to 98K flying hours per year. Additionally, the number of fielded aircraft increased from 152 to 204, requiring additional Field Service Representatives (FSR) and spare parts for both the aircraft and the ground support equipment.
Cost Estimating Methodology	841.5	The primary cost estimating methodology changed from analogy based to actuals from contractor cost reports.
Cost Data Update	90.3	The inflation factors were updated from FY 2013 to FY 2017 using OSD Inflation Indices.
Labor Rate	526.3	Change in labor rate driven largely by new OCONUS requirements where FSR labor rates are higher.
Energy Rate	-0.6	The price for JP-8 changed from \$4.14 per gallon to \$2.38.
Technical Input	0.0	

Other	-5.5 Realigned direct civilian pay costs from Production & Deployment to O&S.
Total Changes	3298.2
Current Estimate	10655.5

The FY 2016 PB Resource Management Decision increased and accelerated the Army contribution to the Global Force Management Allocation Plan. The end result was the addition of two INSCOM companies and two USASOC companies which resulted in a significant OPTEMPO increase. The MQ-1C Gray Eagle platform OPTEMPO increased from 28,990 annual flight hours to 96,852 annual flight hours and an increase from 152 Aircraft to 204 Aircraft.

Disposal Estimate Details

Date of Estimate: September 20, 2017
Source of Estimate: POE
Disposal/Demilitarization Total Cost (BY 2010 \$M): Total costs for disposal of all Platoons are 158.5

The disposal cost estimate was revised to include the U.S. Army Environmental Estimate.